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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,784	09/19/2003	Thomas H. Chuang	STL11057	6734

7590 06/23/2005

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EXAMINER

LAU, TUNG S

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,784

Applicant(s)

CHUANG, THOMAS H.

Examiner

Tung S. Lau

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7 and 21-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/19/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/08/2005 has been entered.

Specification Objection

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as,

"The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The word 'comprises' is a form and legal phraseology often used in patent claims and should be avoided, correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

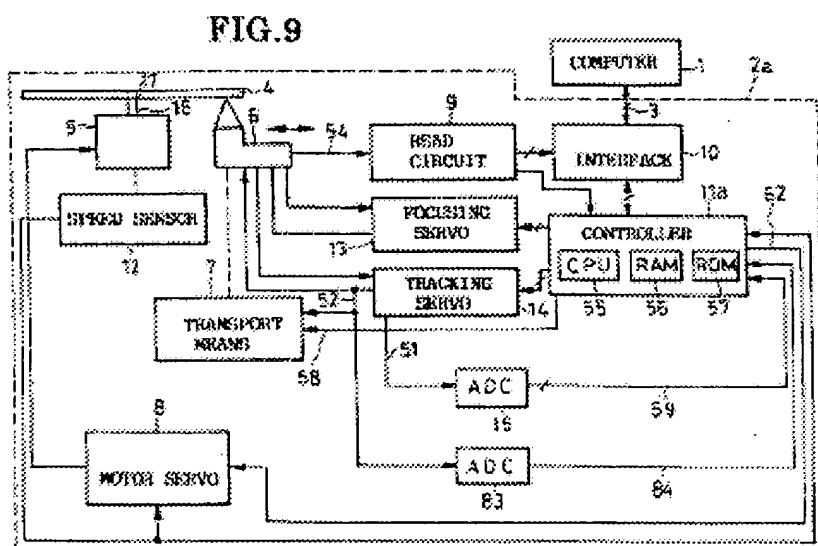
Claims 1-5 and 21-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Katou et al. (U.S. Patent 6,181,652).

Regarding claim 1:

Katou discloses a device for measuring vibration in an article having a rotating member, the device comprising: a motion sensitive transducer attachable to the article comprising an output producing a time domain analog signal in response to the vibration (Col. 2, Lines 32-52); data acquisition member comprising an input connected to the transducer output for sampling the transducer signal and comprising an output producing a time domain signal from the sampling (fig. 5); an optic sensor (fig. 9, unit 6) responsive to a target feature on the rotating member adapted to detect an instantaneous speed of the rotating member and trigger the data acquisition member to begin sampling when the rotating member

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is rotating (fig. 9, unit 16, 4), and a processor (fig. 9, unit 11a) comprising an input connected to the data acquisition member output for translating the time domain signal to a frequency domain signal and determining the magnitude and phase of the vibration signal at a frequency associated with the instantaneous speed of the rotating member (fig. 9, unit 14, 8, fig. 5).

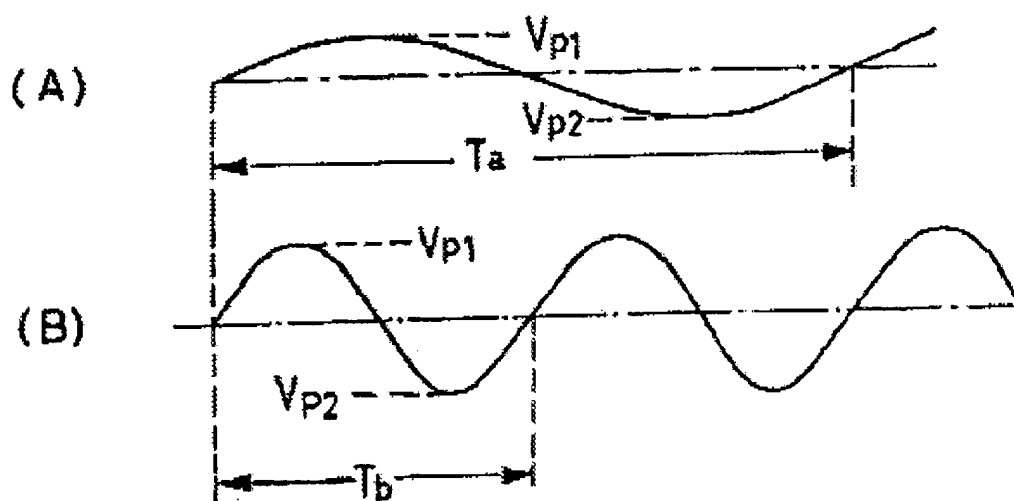


Regarding claim 21:

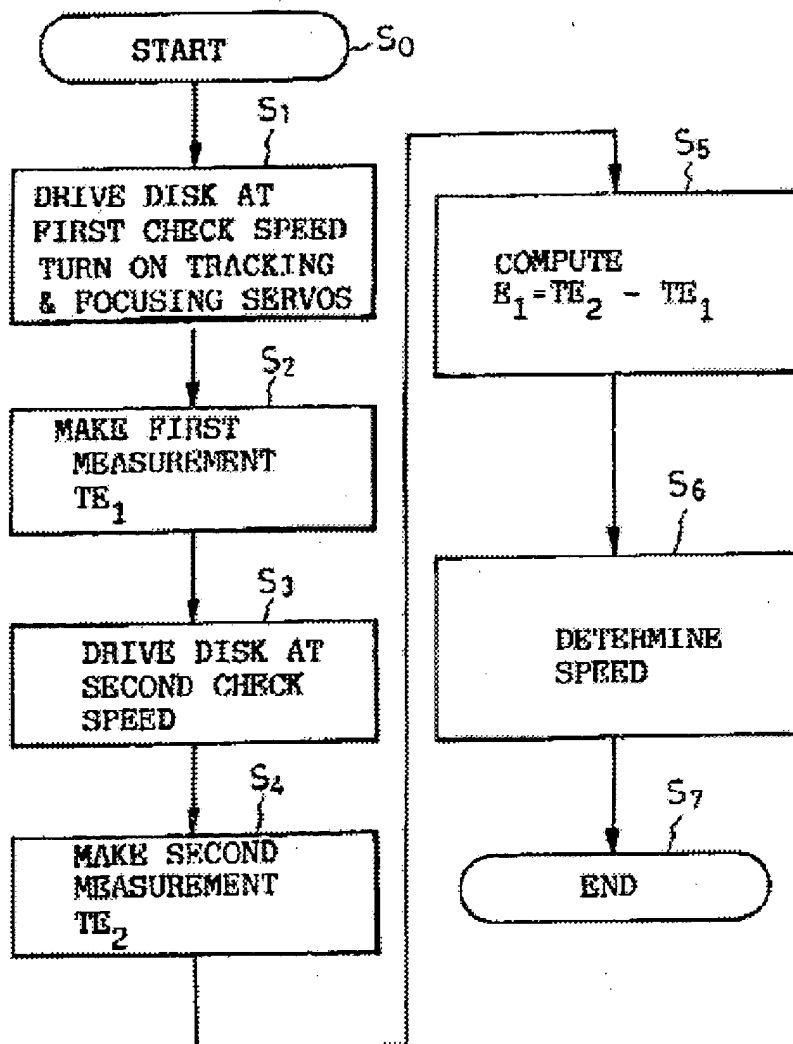
Katou discloses a device for measuring vibration in an article having a rotating member, the device comprising: a motion sensitive transducer attachable to the article (fig. 9, unit 6) comprising an output producing an analog signal in response to the vibration (fig. 9, unit 4); an analog-to-digital (fig. 9, unit 15, 83) data acquisition member comprising an input connected to the transducer output for sampling the transducer signal and comparing an output producing a digital signal from the sampling (fig. 9, unit 15, 83, 11a); an optic sensor (fig. 9, unit 6), responsive to a target feature on the rotation member, adapted to detect an

instantaneous speed of the rotating member (fig. 5); and a processor comprising an input connected to the data acquisition member output for processing the digital signal (fig. 13, unit 77c, fig. 8, unit s5, s6) .

FIG.5



Regarding claim 2, Katou discloses the means for processing is characterized by a comparator determining whether the magnitude of the vibration signal at the frequency associated with the instantaneous speed of the rotating member is greater than a preselected threshold (fig. 8, unit s1-s7, fig. 5); Regarding claim 3, Katou discloses the rotating speed is less than the speed of the member (fig. 10, unit 75, 94).

FIG. 8

Regarding claim 4, Katou discloses simultaneous vibration signal along different planes (fig. 6, 7); Regarding claim 5, Katou discloses the transducers are positioned orthogonally (1, unit 6, 4); Regarding claim 22, Katou discloses member to begin sampling when the rotating member rotating (fig. 6, 7); Regarding claim 23, Katou discloses magnitude and frequency of the signal is greater than a preselected threshold ((fig. 10, unit 76, 95); Regarding claim 24,

Katou discloses the speed is less than an operation speed of the rotating member (abstract); Regarding claim 25, Katou discloses two transducers producing vibration signal from different plane (fig. 1, unit 6, 12, 5); Regarding claim 26, Katou discloses two transducer are orthogonally (fig. 1, unit 6, 5, 12, fig. 5); Regarding claim 27, Katou discloses translate digital to frequency domain with the instantaneous speed of the rotation member (fig. 4, 5, 6); Regarding claim 28, Katou discloses filtering frequency domain (fig. 9, unit 15, 83);); Regarding claim 29, Katou discloses rotating member is a data storage device (abstract, fig. 9, unit 4); Regarding claim 30, Katou discloses a disk drive (abstract).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

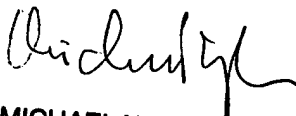
a. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katou et al. (U.S. Patent 6,181,652) in view of Argento et al. (U.S. Patent Application Publication 2003/0164045)

Katou discloses a device including the subject matter discussed above except the use of Fourier transform. Argento discloses the use of Fourier transform (page 2, section 0030), in order to have a low cost and high resolution system (page 1, section 0015).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katou to have the use of Fourier transform taught by Argento in order to have a low cost and high resolution system.

Response to Arguments

5. Applicant's arguments with respect to claims invention have been considered but are moot in view of the new ground(s) of rejection. However, applicant's arguments filed 06/08/2005 have been fully considered but they are not persuasive.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). TL


MICHAEL NGHIEM
PRIMARY EXAMINER